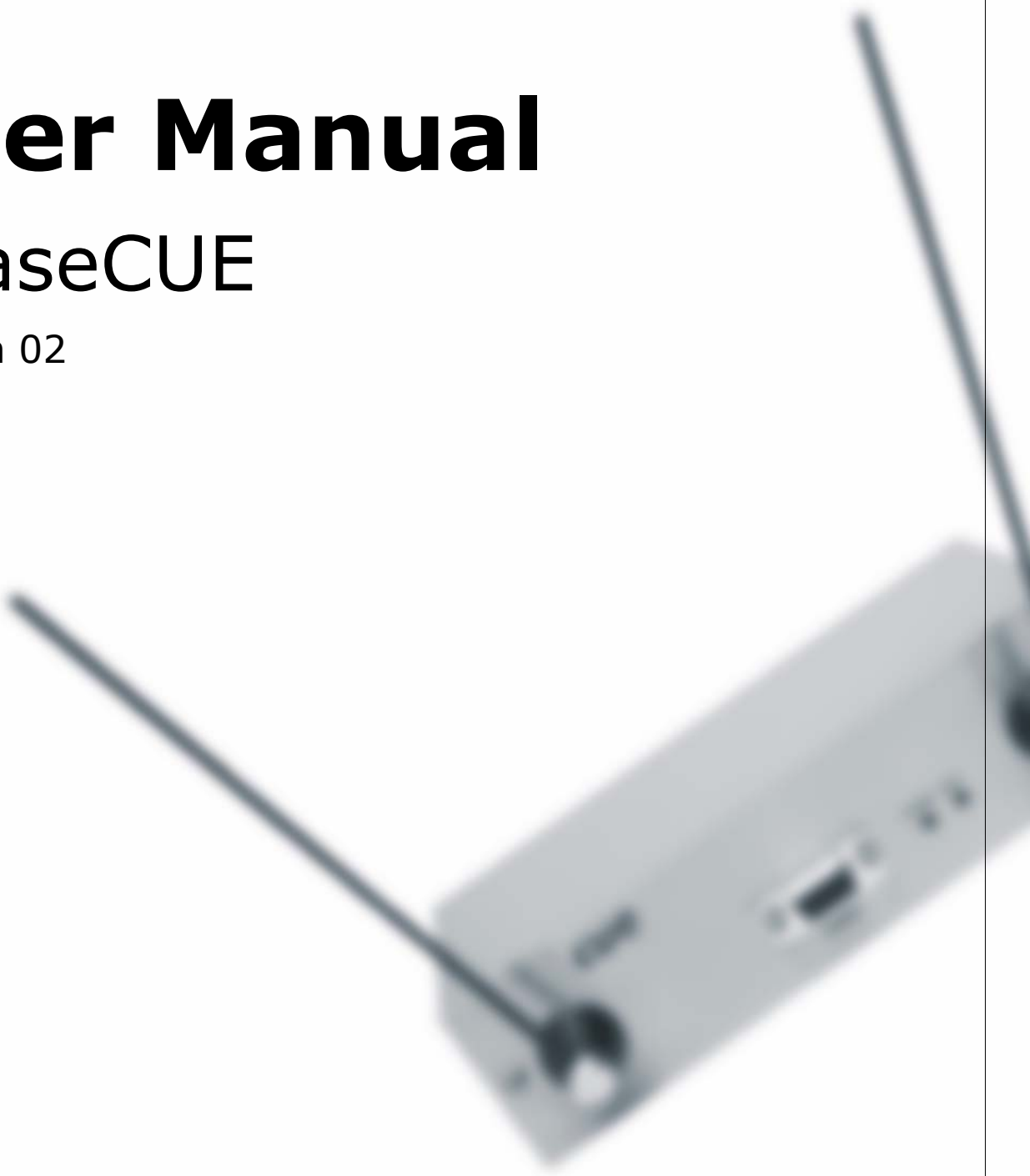
User Manual

rfbaseCUE

Version 02



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Caution

Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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1. Introduction

1.1. Overview

The rfbaseCUE is a unit that serves as an interface between wireless RF control panels and the RS-485 bus.

Main functions

- Receives data from wireless RF control panels and transfers them via CUEwire (RS-485) to the control units (Assistant or Assistant-S).
- Receives data from CUEwire (RS-485) and transfers them via RF to wireless RF control panels.
- Stores data when the wireless RF control panels are not active or out of range and transfers them when the connection is newly established.

1.2. Models

Model	Product code	Description
rfbaseCUE	CS0171-4	RF base unit, 433.92 MHz
rfbaseCUE	CS0171-8	RF base unit, 869.85 MHz
rfbaseCUE	CS0171-9	RF base unit, 914.5 MHz

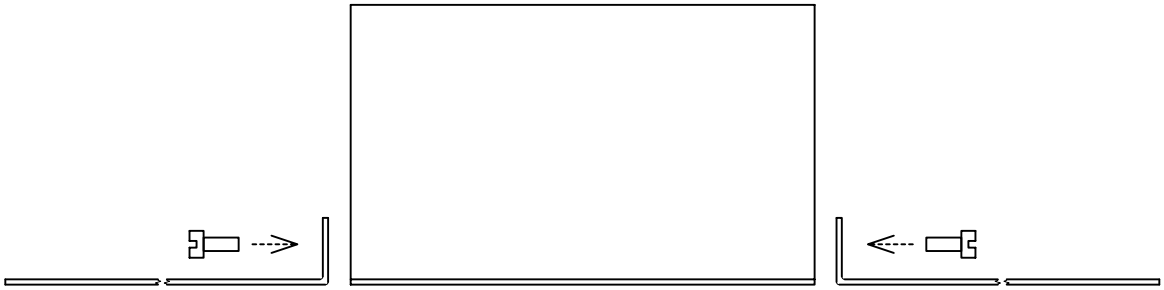
1.3. Features

The main features of the base unit are

- PC host connector for service and programming
- CUEwire (RS-485) connection for communication with central unit of control system
- Two ¼ wave whip antennas
- Power supply 24 VDC (+/-20%), 2 W
- RF frequency 433.92 MHz or 869.85 MHz or 914.5 MHz
- RF power max. 10 mW (for 433.92 MHz) or max. 1 mW (for 869.85 MHz and 914.5 MHz)

2. Mounting the Base Unit

To fix the rfbaseCUE in a 19” rack use rack mount interface kit 19” fastened on to both sides of the rfbaseCUE using screws.



3. Front and Rear Panels Description

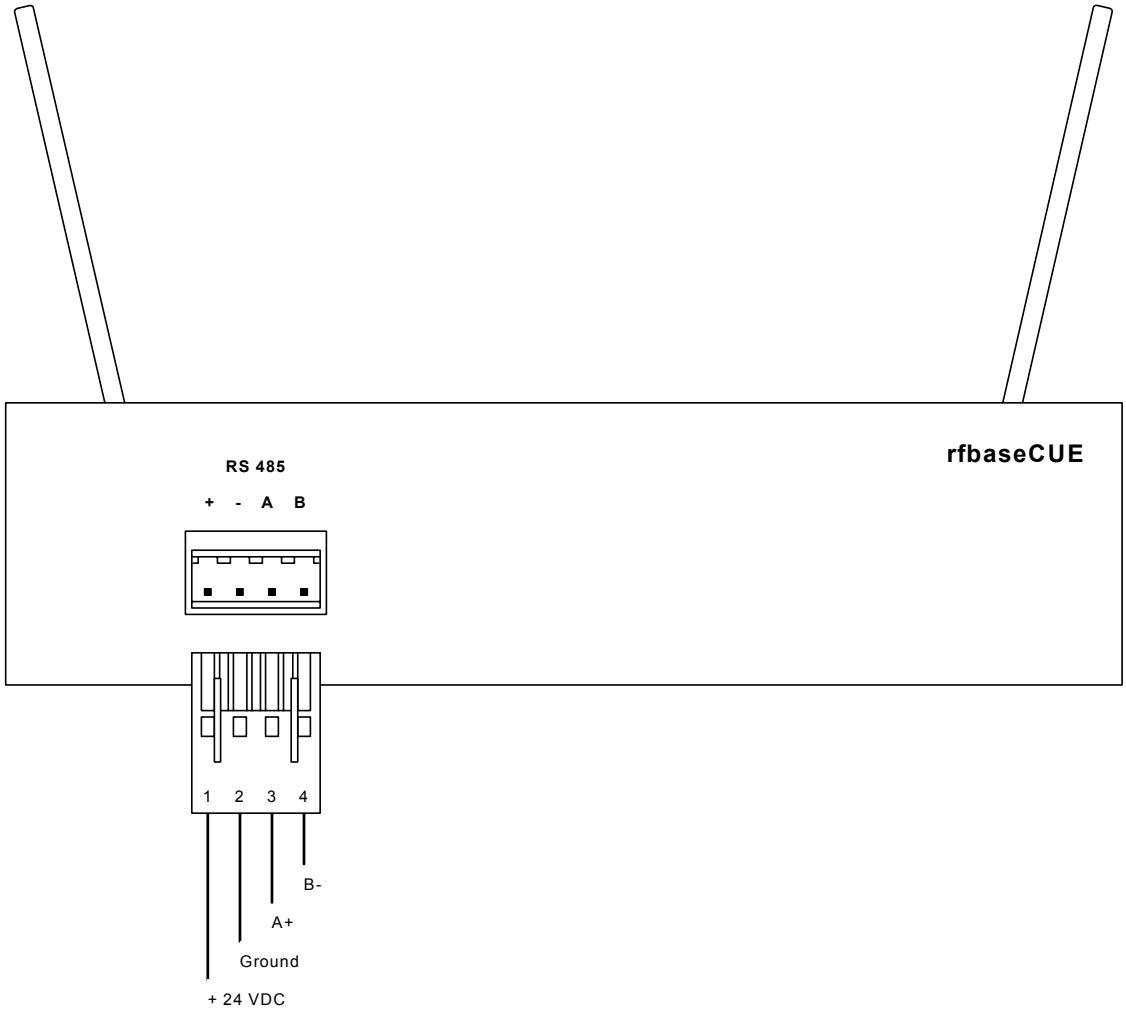
3.1. CUEwire Connection .....

The rfbaseCUE needs to be connected to CUEwire (RS-485 and power supply 24 VDC) in the same way as other control panels.

Important note
There can be only one rfbaseCUE in one control system.

The rear panel is equipped with 4-pin type connector for CUEwire (RS-485 and power supply) connection.

The unit is supplied via power input and the power requirements are **24 VDC (+/-20%), 2 W**.

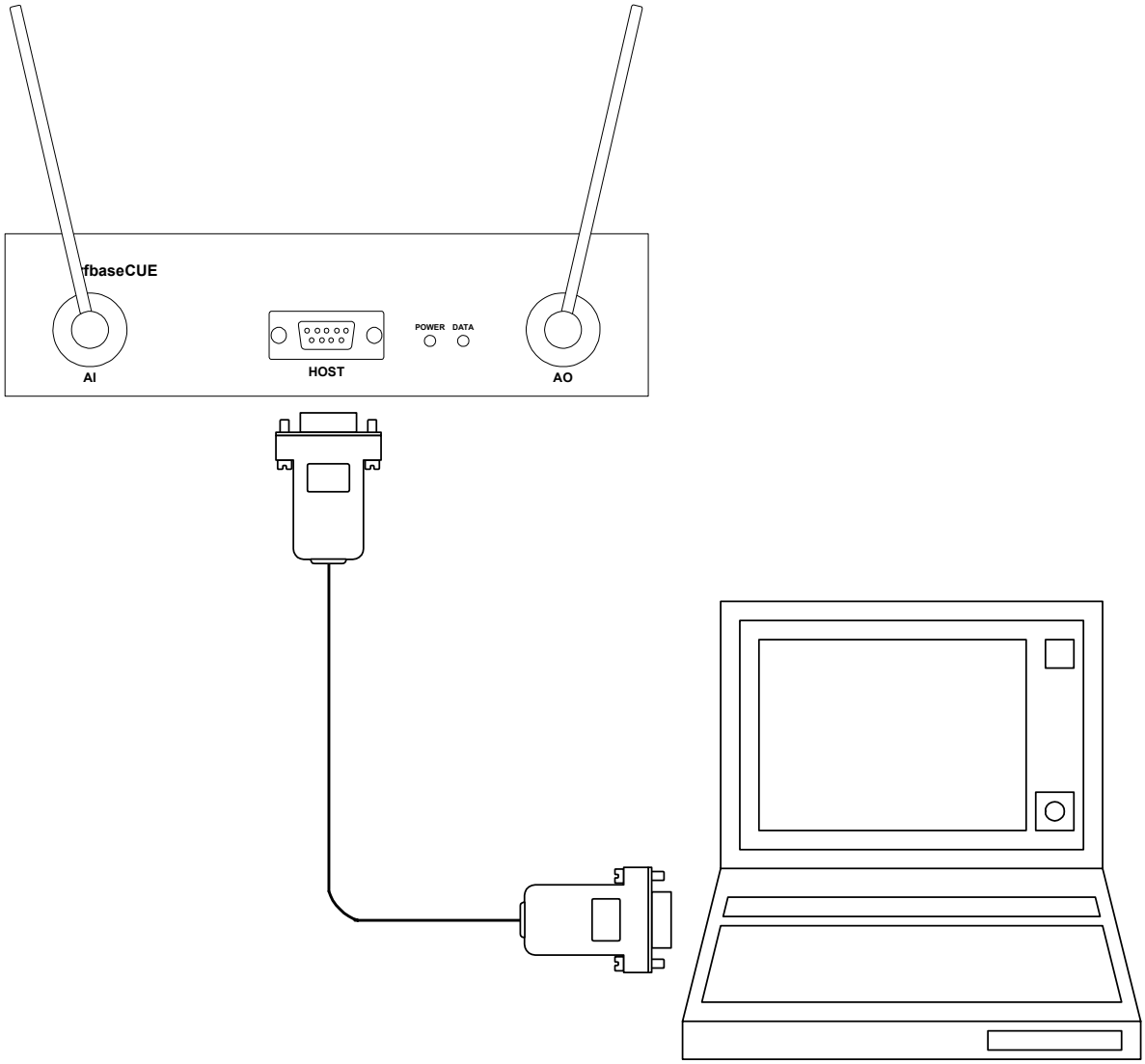


The following table describes all CUEwire signals.

Code	Pin nr.	Meaning	Description	Note
IN	1	+24 V	Power input 24 VDC	
	2	Ground		
RS-485	3	Input/output A+	RS-485	RS-485 connection
	4	Input/output B-		

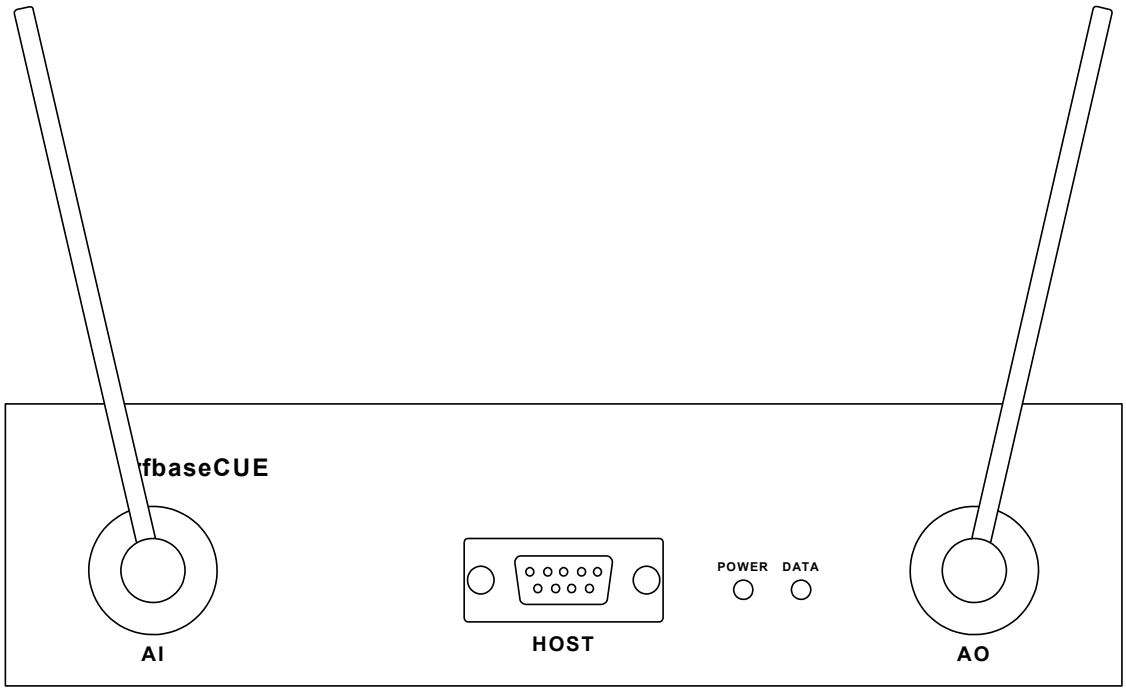
3.2. Host Computer Connection.....

The **HOST** connector on the front side serves for firmware upgrading and service functions. A standard cable Sub-D, 9-pin, female to male, pin to pin is used for connection to a PC.



3.3. Indicators .....

LED indicators are located on the front panel of the rfbaseCUE.



DATA _____ This indicator blinks when rfbaseCUE receives or sends valid RF signals.

POWER _____ When the POWER diode lights – it indicates the presence of feeding voltage for an unit.

3.4. Antennas.....

The integral antennas **AO** and **AI** are situated on the front panel of rfbaseCUE interface. The whip antennas are ¼ wave, rotary, non-detachable.

The antennas are to be directed to open air and placed not close to metal pieces.

3.5. Fuse .....

The unit is equipped with one resettable fuse rated 0.3 A. There are no serviceable parts inside the metal case. If the unit is connected to the power, the POWER LED on the front panel lights on.

4. Service Mode

4.1. Overview.....

The rfbaseCUE interface is provided with special service mode for servicing, testing and upgrading firmware functions. To operate it, connect the rfbaseCUE to a PC and run proper communication program - Windows Terminal or other similar general terminal program.

4.2. How to Check Firmware Version .....

Before starting, please check first if you have all the following items

1. Windows PC with one free serial port.
2. Windows 95/98/NT/2000 with installed Terminal program or HyperTerminal in Windows 95/98/NT/2000.
3. Communication cable between rfbaseCUE HOST connector and PC.

Connect your PC to the rfbaseCUE HOST connector. Start the terminal program on your PC and then set communication parameters to

Baud Rate.....19200
Data Bits 8
Stop Bits 1
Parity.....None
Flow Control .....Xon/Xoff
Connector .....COM1 or COM2 (depending on which channel is used).

Switch off and on the power for the rfbaseCUE.

On your PC monitor you will see the type of version and the revision code. The message format is as follows.

```
RfbaseCUE V0.01  7.3.00
```

4.3. Starting Service Mode .....

Before starting, please check first if you have all the following items

1. Windows PC with one free serial port.
2. Windows 95/98/NT/2000 with installed Terminal program or HyperTerminal in Windows 95/98/NT/2000.
3. Communication cable between rfbaseCUE HOST connector and PC.

Disconnect RS-485 signals A and B on the rear panel of rfbaseCUE.

There are **two ways** how to start the rfbaseCUE to operate in service mode.

1. **Standard entry** of service mode
   Connect your PC to the rfbaseCUE HOST connector and run program **SRVRFB.EXE**. It switches the rfbaseCUE into service mode.

2. **Low level entry** of service mode
   If the rfbaseCUE does not respond to you or you do not have program SRVRFB.EXE, you must remove upper cover of the rfbaseCUE. This way you get the access to buttons **RESET** an **TEST** on the printed board. The TEST button is situated near receiving RF module while RESET button is situated near microprocessor.
   Then do the following
   - Press both buttons on rfbaseCUE interface: RESET and TEST.
   - Release RESET button still holding TEST for several more sec. (approx. 5 sec. is enough).

   This will cause the rfbaseCUE to start in service mode.

When the unit is in service mode, the **DATA** LED indicator starts to blink regularly.

Start the terminal program on your PC and then set communication parameters to
Baud Rate.....19200
Data Bits 8
Stop Bits 1
Parity.....None
Flow Control .....Xon/Xoff
Connector .....COM1 or COM2 (depending on which channel is used).

By pressing **N** button in terminal program the following message appears.

```
CRAM not installed
rfbaseCUE V0.8 SERVICE mode:  H,L,G,J,X,C,R,N,F,Z,P,S,M
>
```

Now the rfbaseCUE is waiting for commands from PC keyboard. Selecting H you will see a brief description of each service mode commands on your monitor.

4.4. Upgrading the Firmware .....

Before starting, please check first if you have all the following items
1. File **RFBxxx.ASX** for the rfbaseCUE containing desired firmware version on your hard disc or floppy disc. The latest firmware version is published regularly on the Cue's web site www.cue.cz.
2. Windows PC with one free serial port.
3. Windows 95/98/NT/2000 with installed Terminal program or HyperTerminal in Windows 95/98/NT/2000.
4. Communication cable between rfbaseCUE HOST connector and PC.

Steps are

1. Enter the rfbaseCUE service mode as described above.

2. For upgrading the rfbaseCUE firmware select **D**.

3. On your PC monitor the following message appears.

```
>d
  * * *  DOWNLOAD FLASH MEMORY  * * *
   Do you really wish to reprogram flash memory ? (Yes/No)
```

4. If you really have a new file **RFBxxx.ASX** for the rfbaseCUE and you want to continue select **Y**.

5. On your PC monitor the following message appears.

```
   YES  -  Download start!
Send - file...  mode: 19200,8,N,1,XON-XOFF
```

6. Now select "Transfers" in menu of HyperTerminal and then "Send Text File". Choose proper setting for **RFBxxx.ASX** file and transfer it to the rfbaseCUE.

7. The PC will start to send upgrading data to the rfbaseCUE. Each successful transfer of data packet is responded by character "." on your PC monitor.

8. At the end the following message appears on your PC monitor.

```
.......................
Download flash memory end!
>
```

9. Finally you can disconnect PC. Switch the power for the rfbaseCUE off and on to start operation of new upgraded firmware version.

4.5. Modifying Address of Wireless Control Panel .....

Steps are

1. Enter the rfbaseCUE service mode.

2. Put the wireless control panel into RF communication range and set condition for MODIFY function (for rfCUE press and hold back-light button).

3. Select **M** on PC. The rfbaseCUE will send via RF message to wireless control panel to enter it's own Modify mode.

   It means for rfCUE
   - When the back-light button is pressed – its current address is displayed.
   - When the back-light button and some other button are pressed simultaneously – it will modify and display the address. For further details see rfCUE user manual.

5. Troubleshooting

5.1. The POWER Indicator does not Light.....

Check the power supply regarding to the right output voltage. If the POWER indicator still does not light contact the dealer.

5.2. The Short Operating Range .....

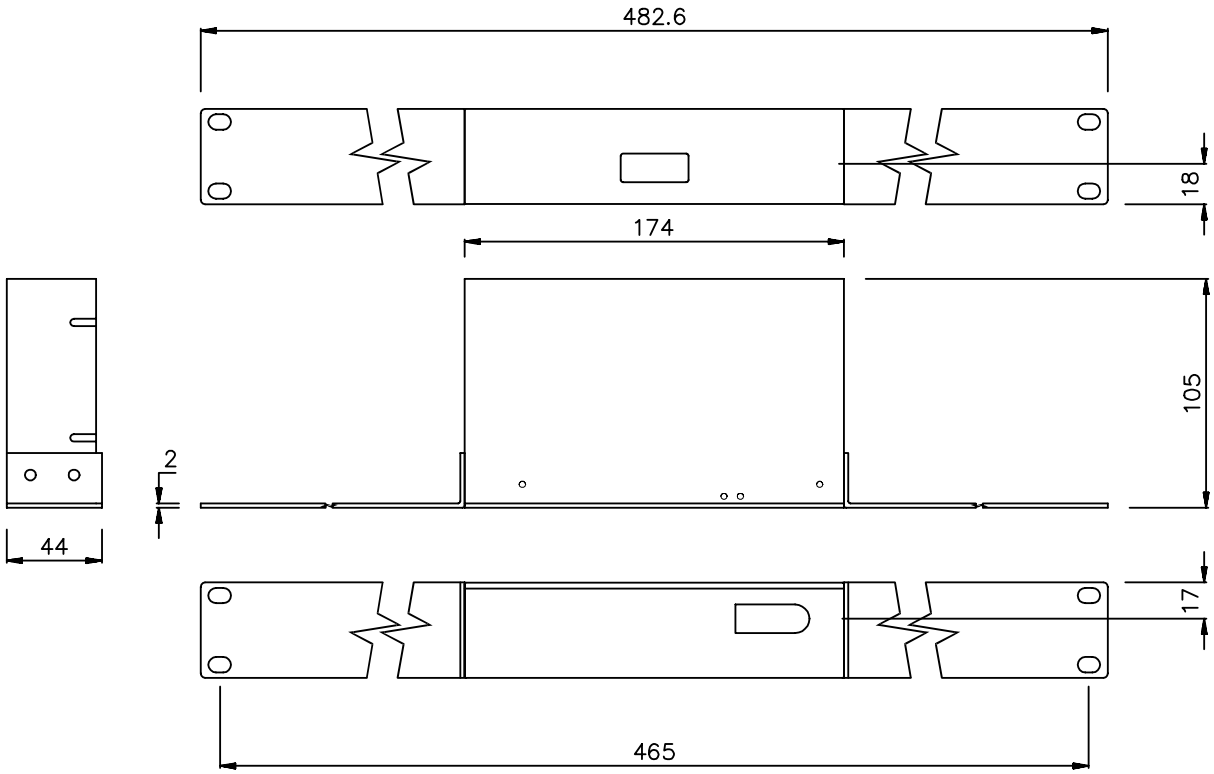
1. Check batteries in the wireless RF control panels.
2. Check the presence of disturbing RF signals (frequencies of other RF operating equipment in the installation).
3. Change position of the rfbaseCUE or its antennas.

6. Specifications

Antennas	(2) ¼ wave whip-type, rotary
System connection	CUEwire, 4-pin connector
Host computer	RS-232, Sub-D, 9-pin, female connector
Power supply	24 VDC (+/- 20%), 2 W
Enclosure	Stainless steel
Dimensions	175 x 44 x 105 mm
Weight	0.9 kg
Supplied accessories	Rack mount kit 19”

7. Mechanical Drawings

All dimensions are in mm.



Notes

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